

WHAT IS CLAIMED IS:

1. A method for modifying an input digital image having an (x,y) array of pixels, each pixel having an input code value for one or more color channels, wherein said input code value has a nonlinear relationship to colorant amount, to form an output digital image containing output code values for each pixel subject to a total colorant amount limit, comprising the steps of:

a) determining an input colorant amount for each color channel of a pixel in response to the corresponding input code value and a colorant amount function that relates the input code value to the colorant amount for the corresponding color channel;

b) determining a modified colorant amount for each color channel of the image pixel responsive to the input colorant amount for each color channel and a total colorant amount limit;

c) determining an output code value for each color channel of the pixel responsive to the modified colorant amount and an inverse colorant amount function that relates colorant amount to the output code value for the corresponding color channel, and

d) repeating steps (a) through (c) for each pixel in the input digital image.

2. The method of claim 1 wherein the input colorant amount is substantially linear with colorant volume.

3. The method of claim 1 wherein the input colorant amount is a mass of colorant.

4. The method of claim 1 further including providing a lookup table for each color channel wherein the colorant amount function is provided by the lookup table.

5. The method of claim 1 wherein the colorant amount function and the inverse colorant amount function are substantially mathematically inverse operations from each other.

6. The method of claim 1 wherein step b) further includes the steps of:

- i) determining a total colorant amount for each pixel as the sum of the colorant amounts for each of the color channels; and
- ii) determining the modified colorant amount for each color channel of the pixel responsive to the total colorant amount and the total colorant amount limit such that for such pixel the sum of the modified colorant amount for each color channels is less than the total colorant amount limit.

7. The method of claim 1 wherein the colorants are inks for use in an inkjet printer.

8. The method of claim 7 wherein the colorant amounts correspond to ink volumes.

9. The method of forming a color image in response to the modified digital image produced by claim 1.

10. A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 1.